

D-Flow Slide - Background



Oeverinscharing zandwinput Bergweg, Overijssel, 1997

This document contains the requirements and functional design for a software kernel that computes the safety assessment of the failure mode flow slide.

Requirements

The functional requirements for D-FlowSlide are:

1. Every computation by D-FlowSlide deals with one surface level and a 1D Soil profile.
2. The original surface line as used in DAM or Ringtoets (WTI) contains a whole set of characteristics points. D-FlowSlide needs only a subset.
3. The safety assessment consists of passing through different phases:
 - A **Global check** according to the global assessment rules given in [Toetsmethode zettingsvloeiing](#) (versie 2, 22 februari 2016) ; A Global assessment is solely based on geometric characteristics of under water slope and levee,
 - A **Detailed check** according to the probabilistic assessment method described in [Toetsmethode zettingsvloeiing](#) (versie 2, 22 februari 2016); In the detailed check also soil properties are taken into account.
 - An **Advanced check** is using the two advanced programs of Deltares:
 - **Advanced check for static liquefaction**, using the original program Sliq2D
 - **Advanced check for breach flow**, using the original program HMBreach.

In the following paragraphs the functional design for D-FlowSlide has been explained. Detailed documents can be found in [the literature list](#)

The definition of the symbols used in this Background section can be found in the [Symbols](#) list.

Assessment scheme D-Flow Slide

The figure below shows the assessment scheme for D-Flow Slide, which largely corresponds with the steps in the safety assessment in WBI2017.

Figure 1: Assessment scheme for D-Flow Slide

